In the present work we study application of differential geometry to the Lagrangian formalism. In the first chapter we summariz e the foundations of geometric formulation of Lagrangian mechanics,in particular eshow the principal meaning of the tagent bundle of the configuration mani-fold and dynamical vector field which solves the Lagrange equations in theirgeometrical form. The Noether's theorem is also formulatedand proved. The second chapter introduces other geometrical definitions related to theLagrangian formalism, such as fiber space, lifts, second-order vector fieldsand Lagrangian vector fields. The existence of symplectic structure and Hamiltonian dynamics on the tangent bundle of the configuration manifold is also demonstrated.